

Message Text

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E.O. 11652: N/A
TAGS: IAEA, PARM, TECH
SUBJECT: IAEA REVIEW: EXTENDED STORAGE OF SPENT FUEL

1. CONSULTANTS FROM SEVEN COUNTRIES, US, UK, FRG, SWEDEN, AUSTRIA, CANADA AND JAPAN MET AT IAEA DURING PERIOD JUNE 28-30 TO ADVISE SECRETARIAT ON ALTERNATIVE TECHNICAL APPROACHES, INCLUDING COSTS, TO EXTENDED STORAGE OF REACTOR SPENT FUEL. CONSULTANTS FROM US WERE CLINT BASTIN, ERDA; JOHN MARTIN, NRC; AND FRANKLIN KING, DUPONT SAVANNAH RIVER.

2. THE GROUP PREPARED PAPERS WHICH CONSIDERED REACTOR SITE POOL-STORAGE DENSIFICATION, EXPANSION OF POOL VOLUMES, OFF-SITE WET STORAGE FACILITIES, DRY STORAGE FACILITIES, AND GEOLOGIC STORAGE.

3. COST ESTIMATES WERE PROVIDED FOR ONLY A FEW APPROACHES. GROUP FELT THAT COMPARATIVE COSTS WERE DIFFICULT TO
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ESTIMATE BECAUSE OF WIDE DISPARITY IN REGULATORY STANDARDS, SCALE OF STORAGE OPERATION, AND LOCATION OF SITE.

4. GROUP ENCOURAGED AGENCY TO CONTINUE TO COORDINATE ACTIVITIES IN THIS TECHNOLOGY THROUGH INTERNATIONAL MEETINGS, SUGGESTING ALSO THAT AGENCY COULD PROVIDE

USEFUL SERVICE TO MEMBER STATES BY SPONSORING DEVELOPMENT OF COMMON INTERNATIONAL SAFETY AND DESIGN STANDARDS. GROUP ALSO URGED ATTENTION OF SECRETARIAT TO SAFEGUARDING OF EXTENDED STORAGE FACILITIES.

5. USING MATERIAL PREPARED THIS MEETING, AS WELL AS FROM OTHER SOURCES, SECRETARIAT PLANS TO PREPARE A DOCUMENT BY OCTOBER DESCRIBING STATE OF EXTENDED STORAGE TECHNOLOGY. DOCUMENT WOULD BE SENT FOR REVIEW TO PARTICIPANTS THIS MEETING BEFORE FINAL PUBLICATION BY SECRETARIAT.

6. WHILE THE FOLLOWING OPINION SHOULD BE CHECKED WITH US PARTICIPANTS, MISSION CONCLUDES ON BASIS OF ATTENDANCE AT MOST OF SESSION THAT SECRETARIAT'S FINAL PAPER UNLIKELY TO CONTRIBUTE MUCH TO ADVANCE STATE-OF-ART THIS TECHNOLOGY. INPUTS TO SECRETARIAT WERE OF GENERAL SYSTEM-LEVEL NATURE; NOTHING NEW EMERGED. MAJOR INTEREST CENTERED ON DIFFERENCES IN APPLICABLE REGULATIONS IN VARIOUS COUNTRIES AND IN GENERAL DESCRIPTIONS ATTENDEES OF THE SPENT-FUEL STORAGE PLANS OF THEIR RESPECTIVE GOVERNMENTS.

A. FRG HAS UNDER CONSTRUCTION TWO (600 TON AND 1800 TO CAPACITY) OFF-SITE WET STORAGE FACILITIES (NOT ASSOCIATED WITH REACTORS OR REPROCESSING LIMITED OFFICIAL USE

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PLANTS); THEY PLAN A THIRD LARGER WET-STORAGE FACILITY WHICH MAY BE CONNECTED WITH A REPROCESSING PLANT.

B. CANADA HAS ALREADY SUCCESSFULLY TESTED A PROTOTYPE DRY STORAGE SYSTEM (FLASKS PLACED IN AN OPEN FIELD AND PASSIVELY AIR-COLLED). THEY PLAN TO USE THIS SYSTEM PROGRESSIVELY AS NEED FOR OFF-SITE STORAGE DEVELOPS. WHILE CANADIAN SYSTEM DESIGNED FOR CANDU SPENT FUEL, WHICH IS LOWER IN HEAT AND SMALLER IN SIZE THAN LWR FUEL, CANADIAN REP MENTIONED THAT ARRANGEMENTS BEING MADE TO RECEIVE SOME LWR SPENT FUEL FROM US FOR TEST OF CANADIAN TECHNIQUE WITH LWR FUEL.

C. SWEDEN STUDYING PLANS FOR EXTENDED STORAGE IN TUNNELS BORED DEEP INTO HARD ROCK. AFTER 30-40 YEARS, IF SPENT FUEL NOT RETRIEVED FOR REPROCESSING, ULTIMATE DISPOSAL COULD BE EFFECTED BY SEALING TUNNELS. STUDY IS TO BE COMPLETE IN OCTOBER 1977.

D. AUSTRIA PLANS OFF-SITE WET STORAGE, WITH SITE LOCATED NEAR MILITARY INSTALLATION FOR PROTECTION AND TO MINIMIZE PUBLIC OBJECTION. SITE BEING CONSIDERED DOES NOT HAVE WATER, SO WATER MUST BE PIPED IN. PROBLEM UNDER STUDY IS RISK WHICH WOULD RESULT FROM FAILURE OF WATER SUPPLY.

E. UK NOT PLANNING EXTENDED STORAGE. THEY WILL
REPROCESS SPENT FUEL FROM THEIR MAGNOX REACTORS. LWR
FUEL FROM OTHER COUNTRIES BEING
RECEIVED IN UK FOR REPORCESSING IS BEING
WET STORED AT REPORCESSING FACILITY WHICH IS EXPECTED
TO BEGIN OPERATION BEFORE STORAGE CAPACITY EXCEEDED.
F. US DESCRIBED POOL DENSITY ENHANCEMENT
TECHNIQUES, AND THREE DRY STORAGE TECHNIQUES UNDER
STUDY: SEALED CASK, AIR-COLLED VAULT AND CAISSON.
STONE

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